

electronic device with an initial location from which the map may identify a path for reaching the displayed marker or indicator representing the search result. In the example of FIG. 13, map 1302 may include initial pin 1322 (e.g., the user's current location) and ending pin 1324 (e.g., the location of a search result), and path 1320 connecting initial pin 1322 to ending pin 1324. Path 1320 may include any suitable path, including a straight line path, a path that avoids particular geographic obstacles (e.g., avoids bodies of water, mountains, or particular changes in altitude), or a path that follows roads.

[0093] In some embodiments, the user may direct the map to display the current location of the electronic device on the map. For example, the electronic device may display marker 1330 indicating the user's current position on the map. Marker 1330 may include any suitable type of marker, including for example a marker that identifies the uncertainty or variance of the user's position. For example, marker 1330 may include a circle or disc, where the radius of the circle or disc is selected based on the accuracy of the identified location (e.g., smaller circle for GPS tracking, but larger circle for cellular tower triangulation).

[0094] FIG. 14 is a schematic view of an illustrative display screen of a mapping application as a user follows a determined path in accordance with one embodiment of the invention. Display 1400 may include map 1402, which may include some or all of the features of map 1302. In some embodiments, map 1402 may be zoomed with respect to map 1302. Map 1402 may include initial pin 1422 (which may be the same as pin 1322), ending pin 1424 (which may be the same as pin 1324), and path 1420 connecting pins 1422 and 1424 (which may be the same path as path 1320). As the user moves (with the electronic device), the position of marker 1430 may change in map 1402 to reflect the current position of the electronic device.

[0095] To guide the user to a particular destination (e.g., ending pin 1424), the electronic device may provide tactile feedback based on the user's location. In some embodiments, the electronic device may provide tactile feedback to guide the user along a particular path. For example, if path 1420 is displayed, the electronic device may provide tactile feedback when the user moves away from path 1420. The type of tactile feedback provided (e.g., the strength of the feedback) may be selected based on one or more of the distance from the path and the direction from the path of the electronic device (e.g., stronger feedback if the user is far from the recommended path, or leaves the path in a direction leading farther away from the destination). Alternatively, or in addition, the electronic device may provide tactile feedback when the user moves along path 1420 (e.g., increasing the level or type of feedback as the user approaches the destination). For example, the electronic device may provide heat-based feedback by which the temperature of the feedback increases as the user approaches the destination.

[0096] In some embodiments, the electronic device may provide tactile feedback based on a user's distance from one or more destinations (e.g., different search results). For example, the electronic device may provide different tactile feedback associated with each search result. As the user approaches a destination associated with a particular search result, the electronic device may provide the tactile feedback associated with the particular search result (e.g., vibrate with a particular frequency). The strength or amplitude of the feedback may be related to the distance from the search result

(e.g., stronger particular tactile feedback as the user approaches the location of the particular search result).

[0097] The electronic device may be operative to provide tactile feedback in any other suitable context. In some embodiments, the user may define situations or contexts in which the electronic device may provide tactile feedback. For example, the electronic device may provide the user with the opportunity to tag or flag situations or contexts for which tactile feedback should be provided. The user may also be given the opportunity to select which particular tactile feedback to provide for each tagged situation (e.g., using a display such as display 600, FIG. 6).

[0098] FIG. 15 is a flowchart of an illustrative process for providing tactile feedback in response to receiving a user input in accordance with one embodiment of the invention. Process 1500 may begin at step 1502. At step 1504, the electronic device may display selectable options. For example, the electronic device may display a plurality of selectable keys. As another example, the electronic device may display a menu with selectable items. As still another example, the electronic device may display hyperlinks or other selectable options available from a web page. At step 1506, the electronic device may detect a user's finger on the screen. For example, a touch screen of the electronic device may detect the user's finger on the display. In some embodiments, other approaches may be used to provide inputs to the electronic device.

[0099] At step 1508, the electronic device may determine whether the location of the finger is associated with a particular selectable option. For example, the electronic device may determine whether the user's finger is placed abutting a selectable option (e.g., on the edge of a displayed button). As another example, the electronic device may determine whether the user's finger is placed directly on an option or field (e.g., a text-entry field). If the electronic device determines that the location of the user's finger is associated with a particular option, process 1500 may move to step 1510. At step 1510, the electronic device may provide tactile feedback associated with the particular displayed option. For example, the electronic device may identify the characteristics of the tactile feedback associated with the particular option, and provide tactile feedback using the identified characteristics. If no tactile feedback is associated with the particular displayed option, process 1500 may skip step 1510 and move to the following step. Process 1500 may then return to step 1506 and detect the current position of the user's finger on the screen.

[0100] If, at step 1508, the electronic device instead determines that the location of the user's finger is not associated with a particular option, process 1500 may move to step 1512. At step 1512, the electronic device may determine whether the location of the finger is associated with tactile feedback. For example, the electronic device may determine whether the user's finger is located in a region adjacent a selectable option (e.g., a small distance away from a selectable option). As another example, the electronic device may determine whether the user's finger is located in a region associated with zooming or scrolling the display. If the electronic device determines that the location of the finger is not associated with tactile feedback, process 1500 may move to step 1514 and end.

[0101] If, at step 1512, the electronic device instead determines that the location of the finger is associated with tactile feedback, process 1500 may move to step 1516. At step 1516, the electronic device may provide tactile feedback associated